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Each may do something of value while studying in a new way the familiar problems of bird life. The writer hopes simply to encourage others to work along a line which has been of so much interest to him and which seems so full of new material.

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## A HISTORICAL NOTICE OF ROSS'S ROSY GULL (*RHODOSTETHIA ROSEA*).<sup>1</sup>

BY JOHN MURDOCH.

As I am one of the very few naturalists who ever had the good fortune to collect more than a few straggling individuals of this beautiful and still rare Gull, or, indeed, to see the bird in anything like large numbers, I have always felt a great interest in the species. The bird, indeed, should be of interest to all naturalists, for although it has been known to science for seventy-five years, and although I have seen literally thousands of them on the wing, there are still not more than 110 specimens known to be in existence in collections, and most of these have been procured since 1880. The great difference between the actual numbers of the bird and its representation in collections is plainly due to some remarkable peculiarity in its habits and geographical distribution. I hope to show what this peculiarity is in the present paper, in which I have tried to present all that we know of the history of the species.

The bird, of course, is well known to ornithologists, but as all my hearers are not ornithologists, it will be well to describe it briefly before going on to give an account of its discovery. It is a graceful little Gull about the size of a Pigeon, and not unlike the little Bonaparte's Gull which is so common along our coast. It is, however, strikingly different from all other Gulls in two important particulars. In the first place, it is the only Gull

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<sup>1</sup> Read before Section F, American Association for the Advancement of Science, August 28, 1898.

known with a wedge-shaped or cuneate tail. With the exception of the genus *Xema*, which has a forked tail, all other Gulls have the tail feathers of equal length, but Ross's Gull has the middle pair of feathers longer than the rest, with the lateral feathers graduated in length towards the middle. Hence it has sometimes been called the Cuneate-tailed Gull. This one character serves to distinguish the species infallibly. The other striking characteristic, though a less constant one, is the color of the underparts. Many of the smaller Gulls and at least one species of Tern have the white of the breast and belly tinged during the breeding season with a delicate rosy pink or peach blossom color, which is very evanescent and soon disappears when the bird is skinned. In the fully developed Rosy Gull, the rose color spreads over all the underparts and is so deep as to be almost a salmon color. This color fades after death, when exposed to the light, but a particularly brilliant specimen in our collection which had been kept carefully in the dark, showed no perceptible change in a year. On the other hand, Gätke reports that some pink feathers of his Heligoland specimen, which he kept shut up in an envelope, faded as badly as the mounted bird.<sup>1</sup> For the rest, the 'mantle,' as the back and wings are called in a Gull, are of the well known 'gull blue,' and the head and tail are white. The adult in summer has a narrow black collar round the neck, which is wanting in the winter plumage. The young birds in the autumn have the back and the wing-coverts more or less mottled with dark feathers, black feathers in the wing, and a black bar across the tip of the tail. Several stages of immature plumage have been described, and it is quite probable that, as is the case with many other Gulls, the bird needs several years to reach the full adult plumage. It is, however, impossible to establish this at present, as the birds have been observed in large numbers only in the autumn. The amount of rose color varies a great deal. Two thirds of the young birds that I have examined were quite white, and more were very rosy, while one of the adults had all the white parts except the tail deeply suffused. I have never had the good fortune to see an adult in summer — indeed, very

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<sup>1</sup> Heligoland as an Ornithological Observatory, p. 558. Edinburgh, 1895.

few have been taken — but from the published descriptions, the rose color must be as deep as in our brightest specimen.

The bird was first taken by the famous Arctic explorer Sir James Clark Ross, who at the time was one of the junior officers in Captain Parry's second expedition in search of the Northwest Passage. The first mention of the bird is in Parry's narrative of the voyage, as follows: "Mr. Ross had procured a specimen of a Gull having a black ring round its neck, and which, in its present plumage, we could not find described. This bird was alone when it was killed, but flying at no great distance from a flock of Tern, which latter it somewhat resembles in size as well as in its red legs; but is on closer inspection easily distinguished by its beak and tail, as well as by a beautiful tint of a most delicate rose-color on its breast" (p. 449). It was shot at Alagnak, Melville Peninsula, on June 23, 1823. At last accounts, this specimen was in the Derby Museum at Liverpool. Four days later, on June 27, one of the other officers shot another specimen at the same place. This was given to the University Museum at Edinburgh.

Dr. (afterwards Sir John) Richardson, well known as the companion of Sir John Franklin in his earlier explorations, was commissioned to describe the zoölogical collections made by Captain Parry, and accordingly among other things, published a description of this new Gull in the 'Appendix' to Captain Parry's journal of a second voyage (1825), giving it the name of *Larus rossii*. This description was based upon the specimen killed by Ross, which would therefore be the type, were it not that by an unfortunate chance, the species had already received the specific name by which we are obliged to recognize it.

The circumstances were as follows: While Dr. Richardson was still at work on Captain Parry's collection, the well known ornithologist Macgillivray, who was at the Edinburgh Museum, had occasion to prepare a revision of the genus *Larus*, which he published in the Memoirs of the Wernerian Society (Vol. V, 1824) under the title 'Description, Characters, and Synonyms of the Different Species of the Genus *Larus*, with critical and explanatory Remarks.' In this paper (p. 249) occurs the following passage: "With regard to the tail there are two remarkable . . .

exceptions; the one... in the *Larus sabini*...; the other *L. roseus*\*, in which it is subcuneate, the middle feathers being considerably longer, the rest graduated." Referring to the name *L. roseus*, a footnote reads, "The name given *pro tempore* to a new species of Gull, discovered by the last Arctic Expedition, but which is to receive its proper designation from Dr. Richardson." It is perfectly evident that Macgillivray had not the least intention of giving a permanent name to the species, and that he merely wished to have a convenient designation for the bird under discussion. Nevertheless, under the strict rule of zoölogical nomenclature, he had 'published' the species, for he had published a binomial name with an accompanying diagnosis, and nothing that he or any one else might do could ever change it.

It is said that this premature naming of the species caused considerable bad blood at the time, and indeed Richardson refers to an alleged previous description which he was unable to find, in a somewhat offended tone, but he certainly had no good ground for offense, as Macgillivray's intentions were plainly all right. It was merely a case of playing with edged tools. When Macgillivray himself separated the species generically from *Larus* under its present name of *Rhodostethia*, he adopted the specific name of *rossii* (Manual of British Ornithology, Pt. II, p. 252, 1842), which of course was illegitimate.

The name as now adopted, *Rhodostethia rosea*, was first used (without explanation) by Bruch in the 'Journal für Ornithologie,' 1853 (p. 106). Bonaparte had used the name *Rossia* for the genus in 1838 (Comparative List of Birds of Europe and America, p. 62), but the name was accompanied by no description, and had moreover been used by Owen in 1835 for a genus of Mollusca.

So much for the nomenclature of the species.

Meanwhile, there were no more records of the capture of the bird, although it was the time of the great Arctic expeditions, culminating in the great Franklin Search, when hundreds of men were pressing into the Arctic regions. It was seen during Parry's expedition over the ice northward from Spitsbergen in lat. 82° north (J. C. Ross, Appendix to Parry's 4th Voyage, p. 195,

1828), and "Mr. Abernethy saw one fly over the ships in Felix Harbour," Boothia Felix, during Ross's second voyage (J. C. Ross 'Appendix' to the narrative of the second voyage. . . . By Sir John Ross, p. xxxvi, London, 1835). Reinhardt admitted the species to his list of 'Birds observed in Greenland,' because he had been "told by a trustworthy person that Holböll formerly possessed an example, probably obtained in Greenland during the latter years of his life" (Ibis, 1861, p. 18). In fact, up to 1875, when Mr. Saunders made his census of the specimens known to exist in museums, the only ones whose capture had been previously recorded were the two original specimens, one taken at Heligoland by Gätke on February 5, 1858 (See Heligoland as an Ornithological Observatory, p. 558) and one shot by Müller on Suderøe, one of the Faeroe Islands, on February 1, 1863 (Naturhistorisk Tidsskrift, ser. 3, vol. III, p. 8). Nevertheless, Saunders was able to record seven other specimens in collections, four from Disco, Greenland, two said to have come from Kamchatka, and one, an adult in winter plumage, said to have been killed in Yorkshire. The Tegethoff Expedition obtained a single specimen in 1873, while the ship was beset off Franz Josef Land (Payer, New Lands within the Arctic Circle, p. 191, N. Y., 1877), and the Museum at Copenhagen received another specimen, probably from Greenland. Two more solitary specimens were collected in 1879, one in immature plumage by the naturalists of the 'Vega' Expedition, at Pitlekaj, their winter quarters on the northeast coast of Siberia, on July 1, and the other, a very young one, on October 10, by Mr. Nelson, at St. Michael's, Alaska. The latter was the only specimen seen by Mr. Nelson during a residence of several years at St. Michael's, and it was a strange bird to the Eskimos.

Such was the state of our knowledge of the species, when the Point Barrow expedition, in which I was one of the naturalists, sailed from San Francisco in 1881. Fifteen specimens were known to have been taken since 1823 — we were then ignorant of what the naturalist of the 'Jeannette' had seen and collected — from widely scattered localities, all indicating a completely Arctic distribution. The bird was still one of the great prizes for an ornithologist, and there was no indication that we were more

likely to find it than, for instance, the English Arctic expedition of 1875. At all events, we were entirely unprepared for what really happened.

We reached our station late in the season, and at the beginning experienced much bad weather. For several weeks, all our energies were devoted to building our house and getting our supplies under cover, and it was the end of September before there came a little lull in the work so that I was able to get out for a day's shooting. It was on September 28 that I shot my first specimen. I well remember the day, beautifully clear and cold with a fresh northeast wind. The ground was frozen hard and a light fall of snow lay upon the earth. As I walked up the beach, several flocks of small graceful Gulls passed me, moving towards the northeast, but out of gunshot. As they whirled in the sunshine, I thought I noticed that some of them were rosy underneath. Could they be the famous Rosy Gulls? As may be fancied, I grew a little excited. The question was soon settled, for a flock at last came within range, and a fortunate shot brought down a bird which proved to be a fine adult in winter plumage. I came home well pleased with myself, as may be supposed, but unfortunately my skinning tools and arsenic were not yet accessible, so I laid the bird carefully away on a barrel in the cold store tent to be attended to at the first opportunity. But I had failed to reckon with the ubiquitous Eskimo dogs, and when I came to look for my precious bird, it had vanished!

For nearly a month, the Gulls continued to pass in large numbers, moving generally towards the northeast, but nearly all were out of reach over the water. Besides, we were so busy getting settled and beginning the meteorological and magnetic work for the year, that no time was allowed us for collecting. We ornithologists consoled ourselves with the belief that we should get plenty of them in the spring, but to our great surprise, we did not see a single one, either in spring or summer, and the same was true of the season of 1883. Plainly, therefore, they did not breed anywhere close to Point Barrow.

Early in September, however, they began to appear again, a few stragglers at first, out among the loose pack ice, and on Sep-

tember 21, they were again abundant. They appeared in large, loose flocks, coming in from the sea and from the southwest, and all apparently flying to the northeast against the cold, fresh breeze. Most of the flocks whirled in at the mouth of the lagoon close to the station, and circled round the house with a peculiarly graceful wavering flight, and many were shot almost from the doorstep. For a week, as long as the east wind blew, they continued plenty, all following the same track. Then none were seen until October 6, when there began another large flight, which lasted for several days. On October 9, in particular, there was a continuous stream of them all day long, moving up the shore at a short distance from the beach, and occasionally swinging in over the land. We saw none coming back.

We were better prepared for them than we had been the preceding autumn, but though all the guns turned out, the number secured was exceedingly small compared with the number seen. The shooting was by no means easy, since for one flock that passed within gunshot, twenty were out of range, and the flocks were so loosely scattered that it was almost impossible to secure more than one bird at a shot.

However, we secured enough of them to satisfy any but the most avaricious. When we came back to Washington, Dr. Coues half seriously took me to task "for vulgarizing this beautiful bird," and Professor Baird expressly forbade our making public the number collected, for fear he should be overwhelmed with requests for gifts or exchanges. To my great chagrin, I had only a small share in this great shooting, for at the time the Gulls were most abundant, I was laid up with a severe cold which prevented me from doing any outdoor work, or indeed from skinning the birds as they were brought in. This, however, did no serious harm, because the birds were put away, — out of reach of the dogs, this time — in our new block house, where they soon froze solid, and staid frozen until I was ready to attend to them. Every night, I used to pick out a batch of about half a dozen, all that I wanted for a morning's work, and put them on the rack behind the stove in the quarters, where we used to dry our stockings, and the next morning they would be nicely thawed out and ready to skin. Still, Arctic taxidermy has its



drawbacks. The carpenter's shop, where I had to work, would not warm up in spite of the little Sibley stove in it, and by the time I had a skin turned inside out and the skull cleaned, the skin would be so stiff from freezing that it would not turn back, and I used to have to warm it at the stove before I could finish the skin. Besides the metal top, which our commanding officer thought was such a neat and cleanly thing to put on my skinning table, used to become uncomfortably numbing to the fingers.

One would naturally suppose that some enterprising collector would have visited Point Barrow after we left, and that a constant supply of these birds would have reached museums, but as a matter of fact, I have seen no published record of any specimens from that region later than our own. I have been informed, however, that there are one or two skins in San Francisco, which I have reason to believe were smuggled in by an unscrupulous member of our party, who appropriated birds which he had shot, though of course, everything collected by any member of the expedition was Government property.

Nor have any large numbers of the species since been collected anywhere else, but specimens continue to come in as stragglers just as they did before our great 'strike.' Before our collections reached the museum, there had already been received the three battered skins that Mr. Newcomb, the naturalist of the 'Jeannette,' so pluckily brought out in that desperate retreat across the ice, after the wreck, when they abandoned everything that they could possibly dispense with. They had secured seven birds, but brought out only the three showing the most interesting stages of plumage. These birds were all taken while the ship was beset north of Wrangel Island, in October, 1879, and the latter part of June, 1880. During the march across the ice, they saw several, early in July, 1881, just north of Bennett Island (De Long, *Voyage of the Jeannette, passim*).

No more captures were reported until Dr. Alexander Bunge, a Russian naturalist, secured two in the Lena Delta, on July 8, 1883 (*Mélanges biologiques*, Vol. XII, pt. 1, p. 57). The Yakuts told him that it was very rare. The next bird was taken at Disco on June 15, 1885. It was said to have been shot at the nest, and an egg was sent with it by the collector. (Reported

by Seebohm, P. Z. S., 1886, p. 82.) There appears to have been more than a little doubt about this egg, though the announcement that was made so confidently has never been definitely contradicted. At all events, Mr. Saunders, in a recent volume of the British Museum Catalogue of Birds, still calls the incubation unknown. This specimen, I take it, is the one in the Seebohm collection in the British Museum.

In the meantime, though much Arctic work had been done, notably by Jackson and the various Peary expeditions, nothing more was heard of the species until the return of Nansen and the 'Fram,' when we received a really important contribution to our knowledge of the biography of the bird.

As Nansen and Johansen were approaching Hvidtenland in 1895 on their return from their northward dash, they first saw these birds on July 15, and as they drew in towards the land, the Gulls were seen in constantly increasing numbers, though never in anything like the flocks that we saw at Point Barrow. After passing Hvidtenland, which is in lat.  $81^{\circ} 38'$  N. and long.  $63^{\circ}$  E., no more birds were seen, nor was the species found by the Jackson-Harmsworth expedition on Franz Josef Land.

Nansen very justly inferred that the birds which he saw had bred on Hvidtenland, and he is undoubtedly the first naturalist to discover a breeding ground of the species. During the previous August, eight young birds had been killed alongside the 'Fram,' then somewhere between the New Siberian Islands and Franz Josef Land.

The last specimen recorded was shot on Bering Island, one of the Russian Seal Islands in Bering Sea, on December 10, 1895. Governor Grebnitski gave the bird to Dr. Stejneger of the National Museum, when the latter visited the island in 1897. The specimen is now in the National Museum. (Stejneger, Auk, vol. XV, p. 183, 1898.)

It will be seen that we still have much to learn about the habits of the species. I think, however, that certain conclusions can be drawn from the observations that I have just reviewed. We may disregard the occurrence of the bird in the Faeroe Islands, England, Heligoland, St. Michael's and Bering Island. These records can teach us nothing, for the birds were mere stragglers,

driven out of their regular course by stress of weather, or something of the sort. Somewhat more significant is the record from Disco, where the bird appears to occur with a certain regularity.

The home of the bird is plainly in some high northern latitude, and is evidently not to be looked for north of Smith Sound, for that region has been thoroughly explored and yet the bird has never been seen north of Disco. The comparatively large numbers seen by Newcomb and Nansen, as well as the occurrence of the species in the Lena Delta, seem to show that it is really at home in the region between Hvidtenland and Wrangel Island, but the enormous numbers of these birds seen at Point Barrow prove, to my mind, that the main centre of the species is somewhere in that region.

Now, it is well known that there is very strong evidence in favor of the belief that there is a large island not far north of Point Barrow, and I believe that this Keenan Island, as it has been called by our American geographers, is the main breeding ground of the Rosy Gull. That eggs will be found on Hvidtenland, I have no doubt, and a breeding colony will doubtless be found on Bennett Island, but the naturalist who reaches Keenan Island in the proper season will be able to do as well for his museum with the eggs of this bird as we did with the skins.

Almost nothing can be stated positively about the habits of the species. Unquestionably, the flocks that travelled by us toward the northeast were not migrating, for their course led them into the very face of the approaching winter, and away from the open water where food could be procured. They must have been simply wandering aimlessly against the wind, and probably worked back again farther off shore when the wind changed. As far as I know, the bird has never been seen except on the wing, and I fancy that it is a good deal of a wanderer. In all probability, like the polar whale, it spends most of its lifetime about the loose edge of the pack ice well out at sea, coming down into the stormy ocean in winter, and in summer retiring to its inaccessible breeding grounds in the far North. However, this is, as yet, only a plausible hypothesis, and I believe that the life history of this beautiful bird will not be wholly understood until the region north of Point Barrow has been thoroughly explored.